by Schneider Electric

Installation Guide Smart-UPS™ On-Line SRT5K/6K Tower/Rack-Mount 3U/4U

Safety Messages

Read the instructions carefully to become familiar with the equipment before attempting to install, operate, service or maintain the UPS. The following special messages may appear throughout this manual or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

The addition of this symbol to a Danger or Warning product safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.

The addition of this symbol to a Warning or Caution product safety label indicates that a hazard exists that can result in injury and product damage if the instructions are not followed.

⚠ CAUTION
CAUTION indicates a potentially hazardous situation which, if not avoided, **can result in** minor or moderate injury.

CAUTION
CAUTION addresses practices not related to physical injury including certain environmental hazards, potential damage or loss of data.

Safety Information

- Adhere to all national and local electrical codes.
- All wiring must be performed by a qualified electrician.
- Changes and modifications to this unit not expressly approved by APC could void the warranty.
- This UPS is intended for indoor use only.
- Do not operate this UPS in direct sunlight, in contact with fluids, or where there is excessive dust or humidity.
- Be sure the air vents on the UPS are not blocked. Allow adequate space for proper ventilation.
- For a UPS with a factory installed power cord, connect the UPS power cable directly to a wall outlet. Do not use surge protectors or extension cords.
- The battery typically lasts for two to five years. Environmental factors impact battery life. Elevated ambient temperatures, poor quality mains power, and frequent short duration discharges will shorten battery life.
- The equipment is heavy. Always practice safe lifting techniques adequate for the weight of the equipment.
- The batteries are heavy. Remove the batteries before installing the UPS and external battery packs (XLBPs), in a rack.
- Always install XLBPs at the bottom in rack-mount configurations. The UPS must be installed above the XLBPs.
- Always install peripheral equipment above the UPS in rack-mount configurations.
- Additional safety information can be found in the Safety Guide supplied with this unit.

Deenergizing safety

The UPS contains internal batteries and may present a shock hazard even when disconnected from the branch circuit (mains). Before installing or servicing the equipment verify the following:

- Mains circuit breaker is in the **OFF** position
- Internal UPS the batteries are removed
- XLBP battery modules are disconnected

Electrical safety

- For models with a hardwired input, the connection to the branch circuit (mains) must be performed by a qualified electrician.
- 230 V models only: In order to maintain compliance with the EMC directive for products sold in Europe, output cords attached to the UPS must not exceed 10 meters in length.
- The protective earth conductor for the UPS carries the leakage current from the load devices (computer equipment). An insulated ground conductor is to be installed as part of the branch circuit that supplies the UPS. The conductor must have the same size and insulation material as the grounded and ungrounded branch circuit supply conductors. The conductor will typically be green and with or without a yellow stripe.
- The UPS input ground conductor must be properly bonded to protective earth at the service panel. If the UPS input power is supplied by a separately derived system, the ground conductor must be properly bonded at the supply transformer or motor generator set.

Battery safety

- Before installing or replacing the batteries, remove jewelry such as wristwatches and rings. High short circuit current through conductive materials could cause severe burns.
- Do not dispose of batteries by burning them. The batteries may explode.
- Do not open or mutilate batteries. Released electrolyte is harmful to the skin and eyes, and may be toxic.

Hardwire safety

- Verify that all branch circuit (mains) and low voltage (control) circuits are deenergized, and locked out before installing cables or making connections, whether in the junction box or to the UPS.
- Wiring by a qualified electrician is required.
- Check national and local codes before wiring.
- Strain relief is required for all hardwiring (not supplied).
- All openings that allow access to UPS hardwire terminals must be covered. Failure to do so may result in personal injury or equipment damage.
- Select wire size and connectors according to national and local codes.

General information

- The UPS will recognize as many as 10 external battery packs connected to the UPS. However there is no limit to the number of XLBPs that can be used with the UPS.
  Note: For each XLBP added, increased recharge time will be required.
- The model and serial numbers are located on a small, rear panel label. For some models, an additional label is located on the chassis under the front bezel.
- Always recycle used batteries.
- Recycle the package materials or save them for reuse.

FCC Class A radio frequency warning

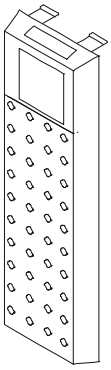
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are intended to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Package Contents

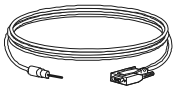
Inspect the contents upon receipt. Notify the carrier and dealer if the unit is damaged.

Included with all models

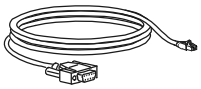
Front bezel



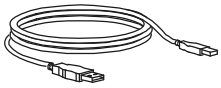
Console to DB9 cable



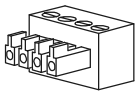
RJ45 to DB9 cable



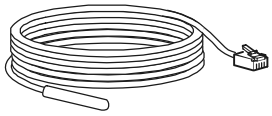
USB cable



EPO Terminal block



Temperature sensor probe

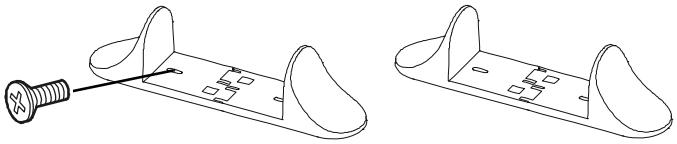


User Documentation CD.

Network Management Utility CD

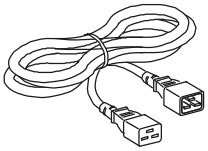
Included with Tower and SRT5KRMXLW-HW models only

- 2 pairs stabilizer brackets
- 4 flat head screws to secure tower stabilizer brackets to the UPS



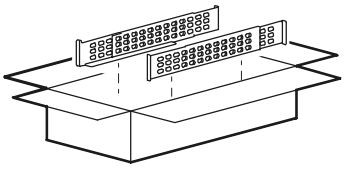
Included with XLI/XLT-IEC models only

2 output power cords:
1.2 m in length
2 m in length

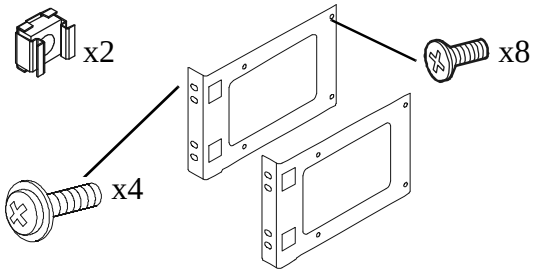


Included with Rack-Mount models only

Rail Kit with instructions and hardware for installing rails in a rack.



- 1 pair rack-mount brackets
- 8 flat head screws to secure rack-mount brackets to the UPS
- 4 ornamental screws to secure rack-mount brackets to the rails
- 2 cage nuts



Specifications

For additional specifications refer to the APC web site, **www.apc.com**.

Environmental

Temperature	**Operating**	0º to 40º C (32º to 104º F)
	Storage	-15º to 45º C (5º to 113º F)
Maximum Elevation	**Operating**	0 - 3,000 m (0 - 10,000 ft)
	Storage	0 - 15,000 m (50,000 ft)
Humidity	0% to 95% relative humidity, non-condensing	
Protection Class	IP 20 rating	
Note: Charge the battery modules every six months during storage. Environmental factors impact battery life. Elevated ambient temperatures, high humidity, poor quality mains power, and frequent short duration discharges will shorten battery life.		

Physical

SRT5K model

The UPS is heavy. Follow all lifting guidelines.

Lifting guidelines	>55 kg (>120 lb)
Unit weight batteries included, without packaging	54.6 kg (120 lb)
Unit weight batteries included, with packaging	Rack-Mount models: 63.6 kg (140 lb) Tower models: 67 kg (147.4 lb)
Unit dimensions without packaging **Height x Width x Depth**	130 mm x 432 mm x 719.4 mm 5 in x 17 in x 28.3 in
Unit dimensions with packaging **Height x Width x Depth**	330 mm x 610 mm x 960 mm 13 in x 24 in x 37.8 in
The model and serial numbers are on a small label located on the rear panel.	

SRT6K model

The UPS is heavy. Follow all lifting guidelines.

Lifting guidelines	>55 kg (>120 lb)
Unit weight batteries included, without packaging	60 kg (132 lb)
Unit weight batteries included, with packaging	67 kg (147.4 lb)
Unit dimensions without packaging **Height x Width x Depth**	174 mm x 432 mm x 719.4 mm 6.9 in x 17 in x 28.3 in
Unit dimensions with packaging **Height x Width x Depth**	370 mm x 610 mm x 960 mm 14.6 in x 24 in x 37.8 in
The model and serial numbers are on a small label located on the rear panel.	

Battery

Battery type	Maintenance free, leak proof, sealed, lead acid
Replacement battery module This UPS has hot swappable battery modules. Replacement is a safe procedure, isolated from electrical hazards. Refer to the appropriate replacement battery user manual for installation instructions. Contact your dealer or go the APC web site, **www.apc.com** for information on replacement batteries.	APCRBC140
Number of battery modules	2 battery modules
Voltage for each battery module **Total voltage for the UPS** **Ah rating**	96 V 192 V 5.1 Ah per battery module
XLBP cable length	500 mm (19.7 in)

Electrical

Models	Rating
SRT5KXLT	5 kVA/4.25 kW
SRT5KRMXLT	
SRT5KXLT-IEC	
SRT5KRMXLT-IEC	
SRT5KXLI	5 kVA/4.5 kW
SRT5KRMXLI	
SRT5KRMXLW-HW	
SRT6KXLT	6 kVA/6 kW
SRT6KRMXLT	
SRT6KXLT-IEC	
SRT6KRMXLT-IEC	
SRT6KXLI	
SRT6KRMXLI	

Output	
Output Frequency	50 Hz/60 Hz ± 3 Hz
Nominal Output Voltage	SRT5KRMXLW-HW: 208V, 220V, 230V, 240V SRT5K/6KXLI, SRT5K/6KRMXLI: 220V, 230V, 240V SRT5K/6KXLT/XLT-IEC, SRT5K/6KRMXLT/XLT-IEC: 208V, 240V
Input	
Input Frequency	40 HZ/70 Hz ± 3 Hz
Nominal Input Voltage	SRT5KRMXLW-HW: 208 V, 220 V, 230 V, 240 V SRT5K/6KXLI, SRT5K/6KRMXLI: 220 V, 230 V, 240 V SRT5K/6KXLT/XLT-IEC, SRT5K/6KRMXLT/XLT-IEC: 208 V, 240 V

Remove Battery Modules

⚠ CAUTION

DAMAGE TO EQUIPMENT OR PERSONNEL

- The equipment is heavy. Each battery module weighs 17 kg (37 lb).
- Always practice safe lifting techniques adequate for the weight of the equipment.
- Remove the battery modules before installing the UPS.
- Use the battery module handle to slide the battery modules in or out of the UPS.
- Do not use the battery module handle to lift or carry the battery module.

Failure to follow these instructions can result in equipment damage and minor or moderate injury.

Use the battery module handle to lift and slide the battery modules out of the UPS.

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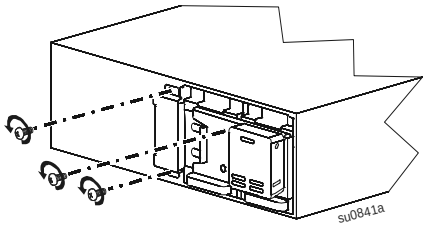

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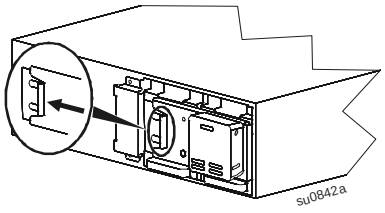

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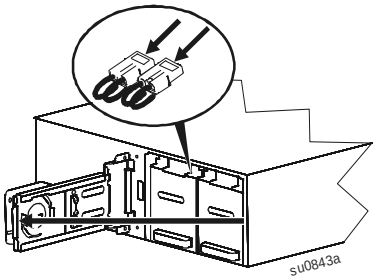

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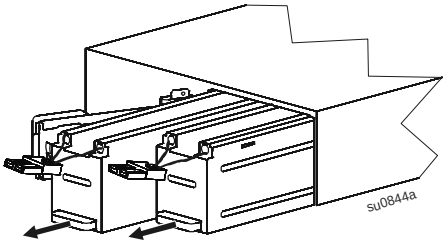

Rack-Mount Installation

Refer to the Rail Kit Installation Guide for instructions on rail installation.

⚠ CAUTION

DAMAGE TO EQUIPMENT OR PERSONNEL

- The equipment is heavy. Always practice safe lifting techniques adequate for the weight of the equipment.
- Always use the recommended number of screws to secure brackets to the UPS.
- Always use the recommended number of screws and cage nuts to secure the UPS to the rack.
- Always install the UPS at the bottom of the rack.
- Always install the XLBP below the UPS in the rack.

Failure to follow these instructions can result in equipment damage and minor or moderate injury

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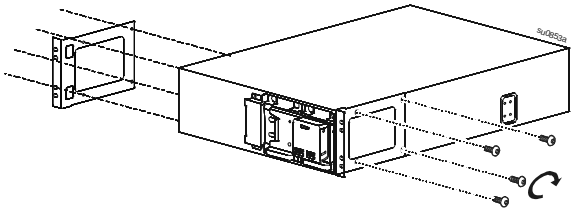

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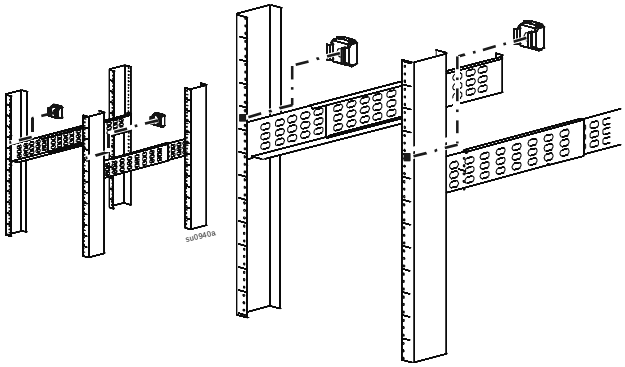

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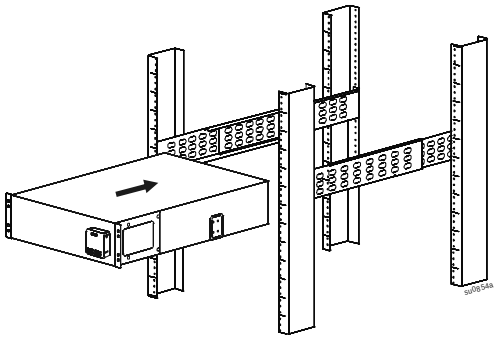

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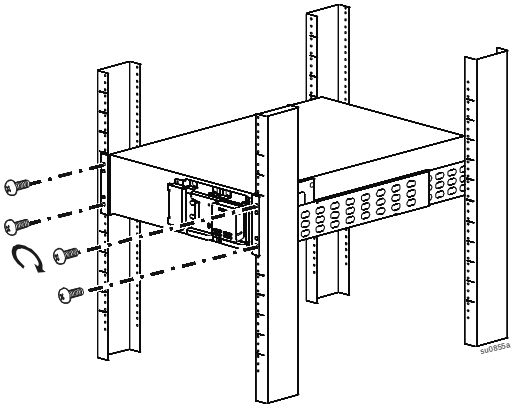

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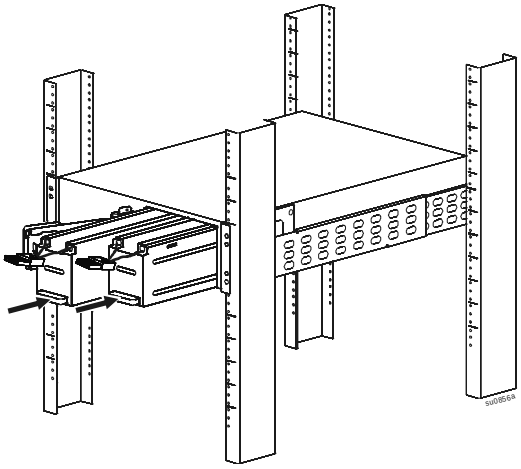
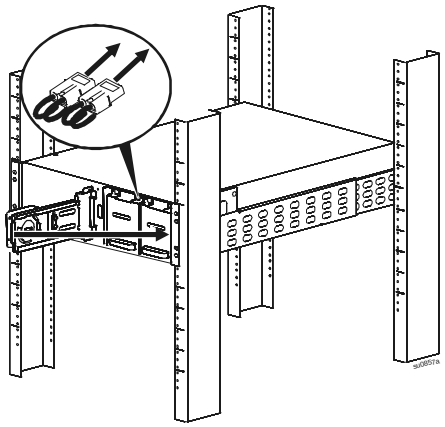


❻ After the UPS is hardwired to branch circuit mains complete steps 6-8.



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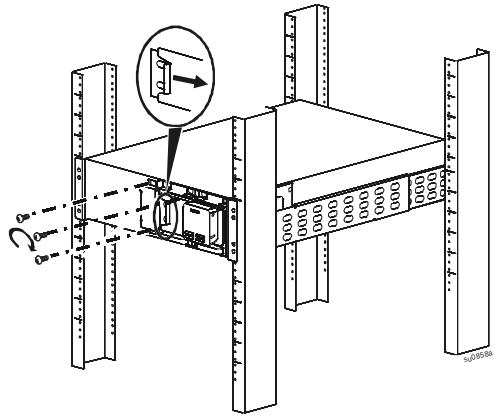

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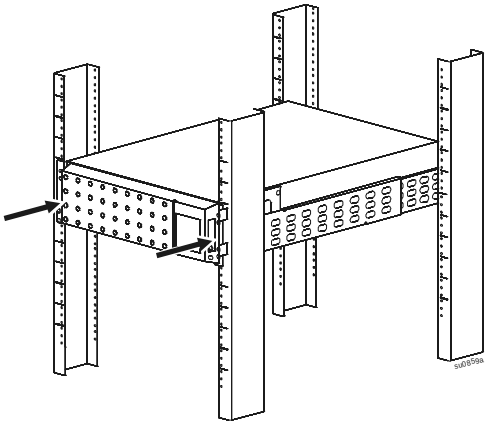

Tower Installation

⚠ CAUTION

DAMAGE TO EQUIPMENT OR PERSONNEL

- The equipment is heavy. Each battery module weighs 17 kg (37 lb).
- Always practice safe lifting techniques adequate for the weight of the equipment.
- Remove the battery modules before installing the UPS.
- Use the battery module handle to slide the battery modules in or out of the UPS.
- Do not use the battery module handle to lift or carry the battery module.

Failure to follow these instructions can result in equipment damage and minor or moderate injury

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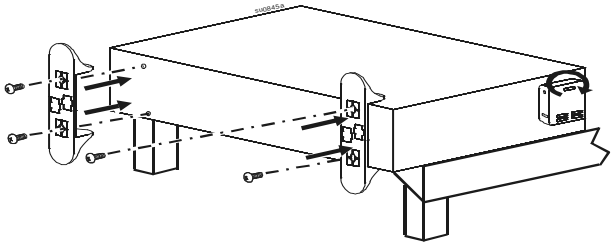

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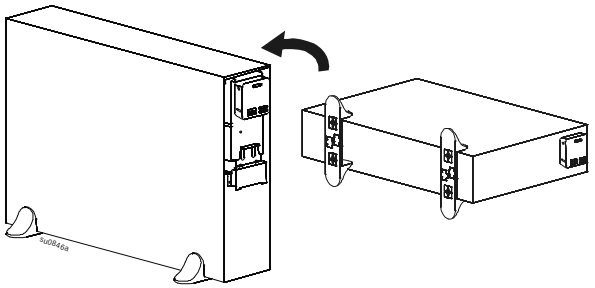

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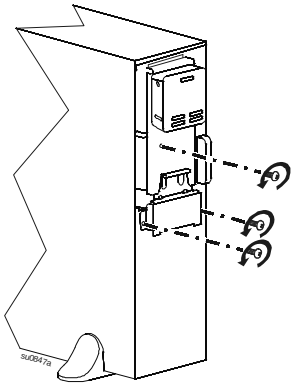

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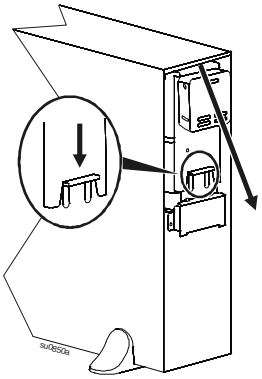

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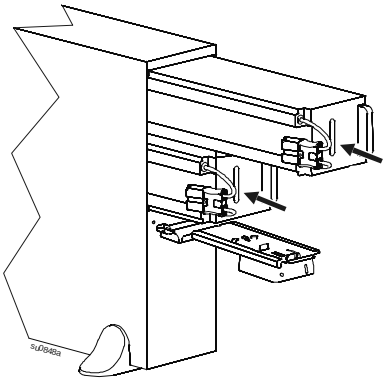
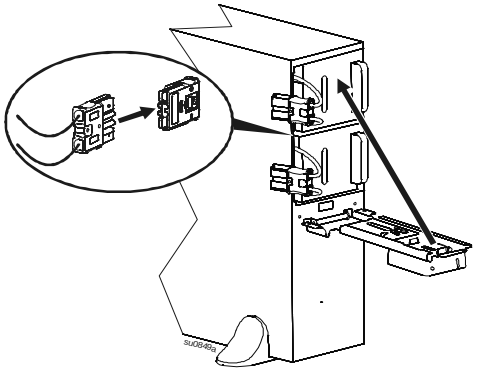


❻ After the UPS is hardwired to branch circuit mains complete steps 6-8.



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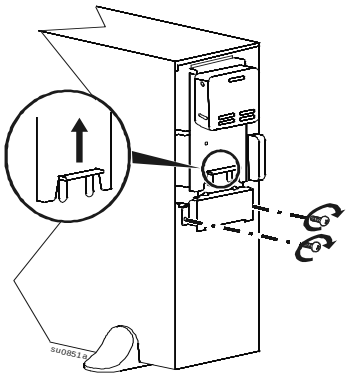

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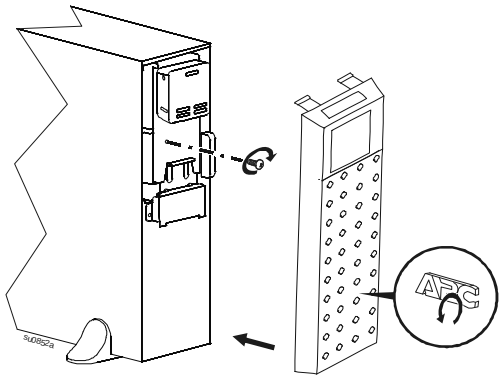
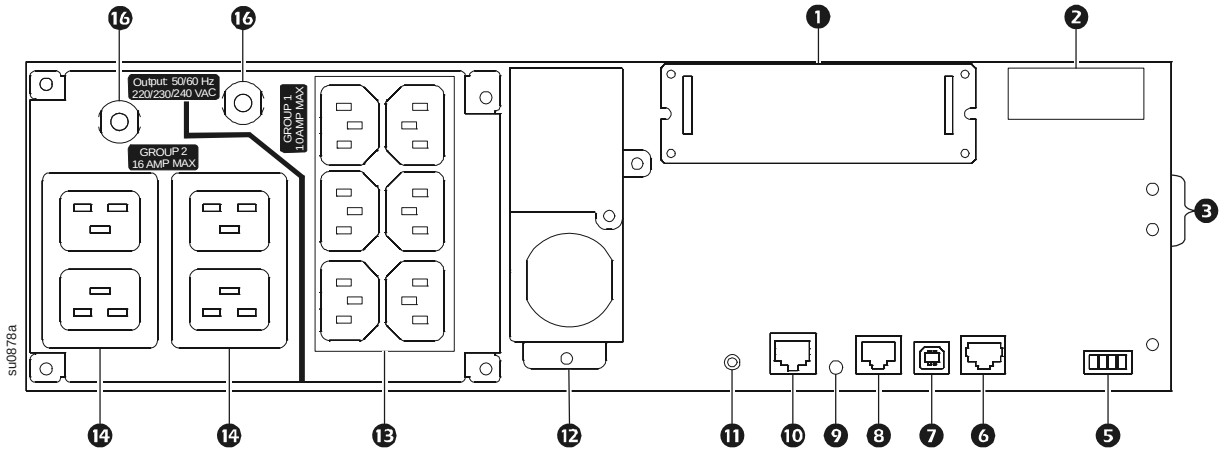


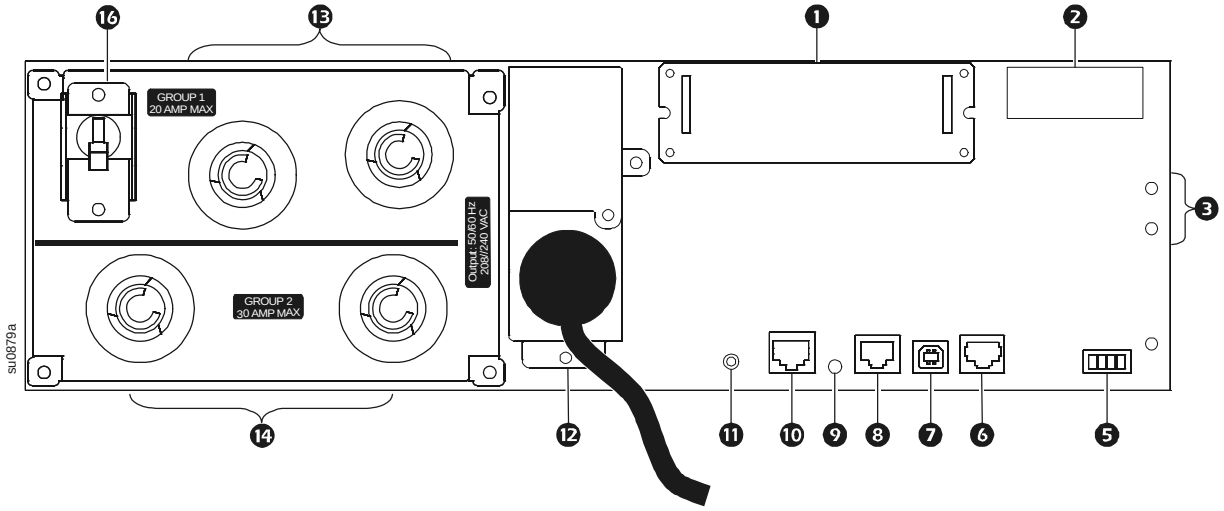
Rear Panel Features

Note: Refer to the table “Key to identify rear panel features” on page 15, that provides a key to the callout numbers for the rear panel graphics depicted in this manual.

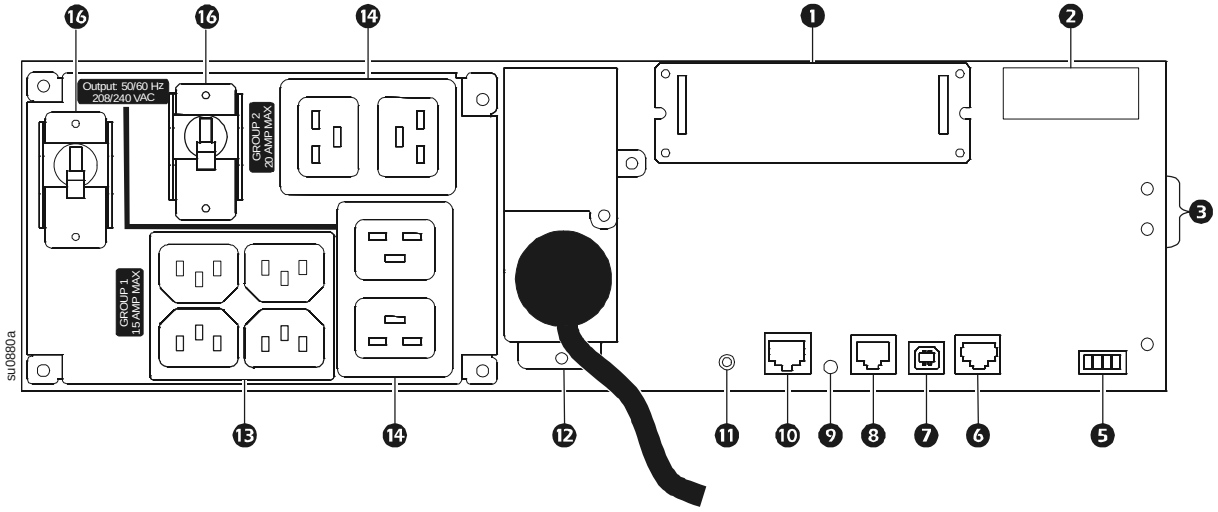
SRT5KXLI/SRT5KRMXLI



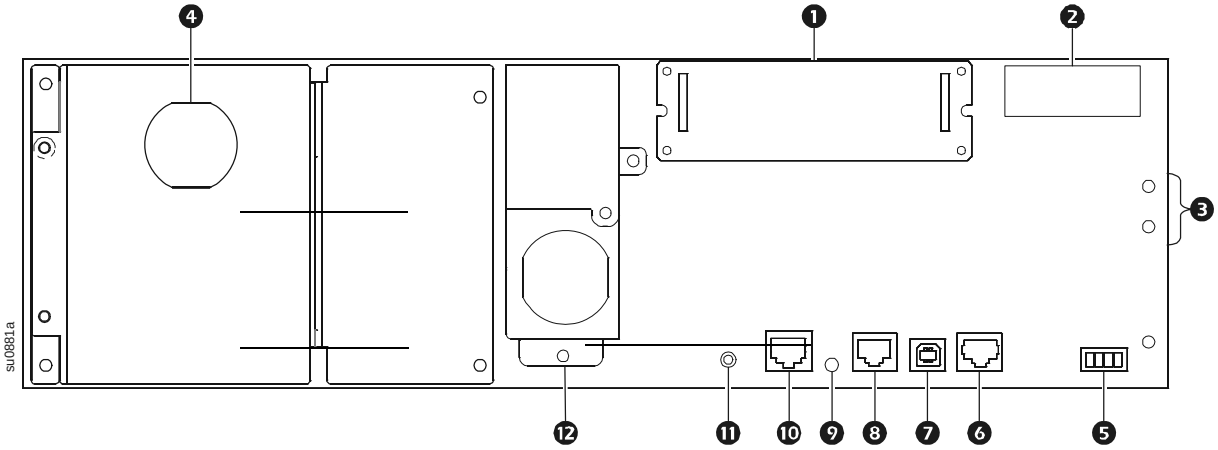
SRT5KXLT/SRT5KRMXLT



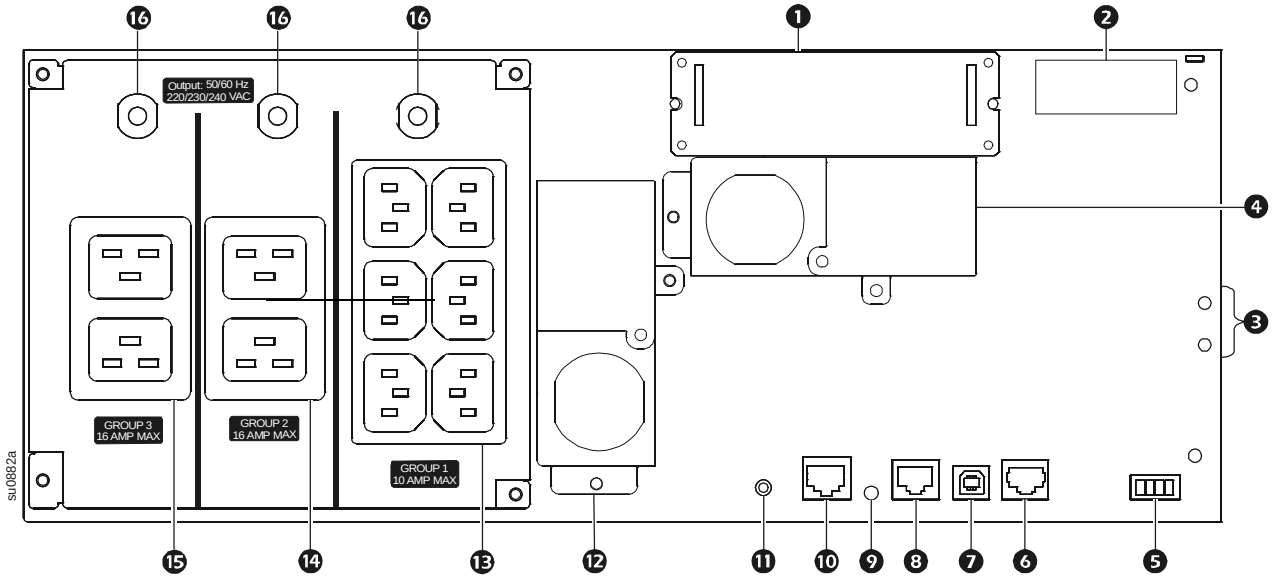
SRT5KXLT-IEC/SRT5KRMXLT-IEC



SRT5KRMXLW-HW



SRT6KXLI/SRT6KRMXLI



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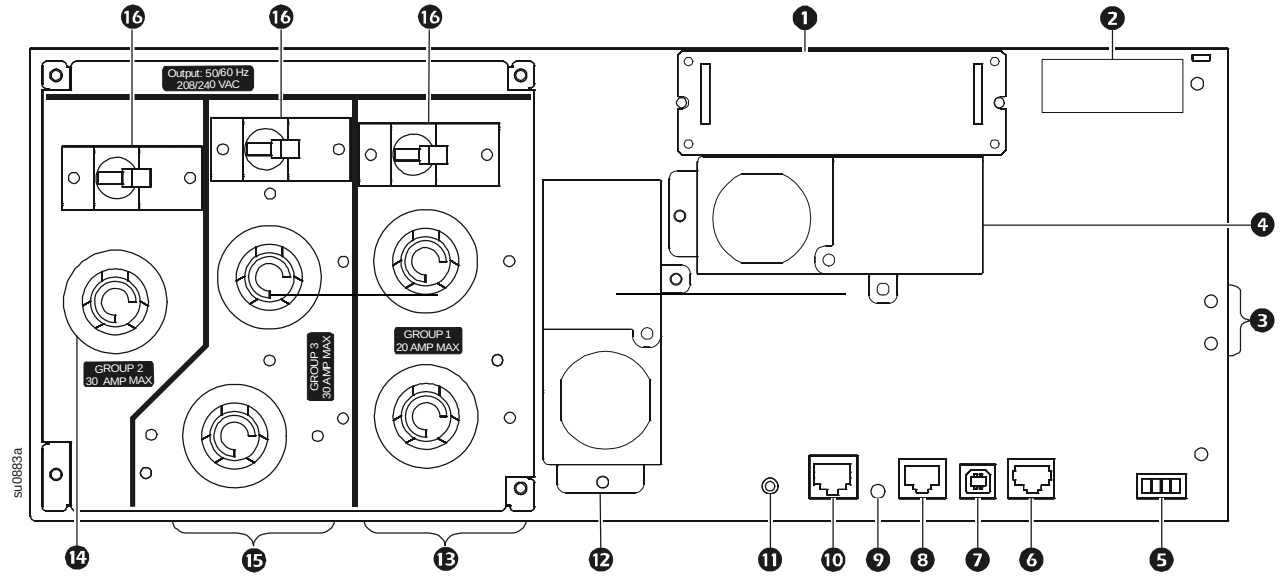
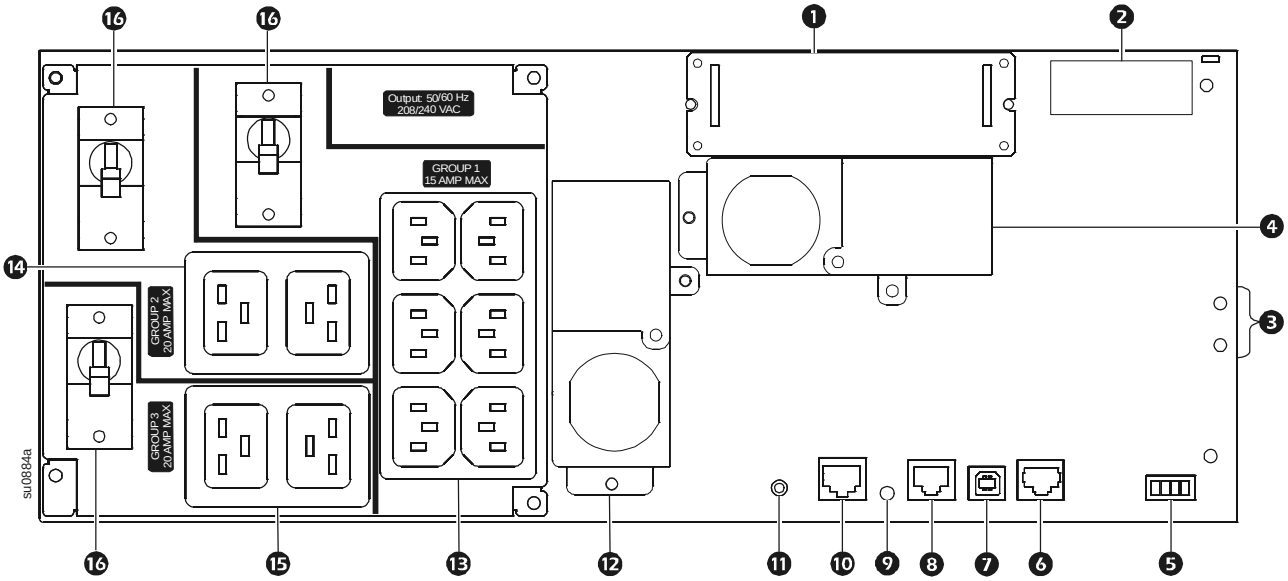


SRT6KXLT-IEC/SRT6KRMXLT-IEC



Key to identify rear panel features

❶	**SmartSlot**	The SmartSlot can be used to connect optional management accessories.
❷	**External battery power and communication connector**	Use the external battery cable on the XLBP to connect the UPS and XLBP. XLBPs provide extended runtime during power outages. The UPS will automatically recognize up to 10 external battery packs.
❸	**Chassis ground screws**	The UPS and XLBPs have ground screws for connecting the ground leads. Prior to connecting a ground lead, disconnect the UPS from mains power.
❹	**Hardwire output box**	SRT5KRMXLW-HW, SRT6KXLI, SRT6KRMXLI, SRT6KXLT, SRT6KRMXLT, SRT6KXLT-IEC, SRT6KRMXLT-IEC models are equipped with a hardwire output box. Refer to “Wiring Specifications” on page 11 for hardwire specifications. Remove the knockouts. Snap-In strain reliefs are recommended (not supplied).
❺	**EPO terminal**	The Emergency Power Off (EPO) terminal allows the user to connect the UPS to a central EPO system.
❻	**Serial Com**	The Serial Com port is used to communicate with the UPS. **Use only interface kits supplied or approved by APC by Schneider Electric. Any other serial interface cable will be incompatible with the UPS connector.**
❼	**USB port**	The USB port is used to connect either a server for native operating system communications, or for software to communicate with the UPS. **Note:** Serial and USB communication should not be used simultaneously. Use either the Serial Com or the USB port.
❽	**Universal I/O port**	Use to connect: • Temperature sensor AP9335T (supplied) • Temperature/humidity sensor AP9335TH (not supplied) • Relay input/output connector AP9810 (not supplied), supports two input contacts and one output relay
❾	**Console port**	Use the Console port to configure the network management features.
❿	**Network port**	Use the Network port to connect the UPS to the network.
⓫	**Reset button**	Use the Reset button to restart the Network Management Interface. **Note:** A restart of the Network Management Interface does not affect UPS operation.
⓬	**AC input power cable or hardwire input box**	• SRT5KXLT, SRT5KRMXLT, SRT5KXLT-IEC, SRT5KRMXLT-IEC models have factory installed input power cables. • All other models are equipped with a hardwire input box. Refer to “Wiring Specifications” on page 11. Remove the knockouts. Snap-In strain reliefs are recommended (not supplied).
⓭	**Controllable outlet group 1**	Connect electronic devices to these outlets.
⓮	**Controllable outlet group 2**	Connect electronic devices to these outlets.
⓯	**Controllable outlet group 3**	Connect electronic devices to these outlets.
⓰	**Circuit breaker**	In the event an overload condition occurs, disconnect nonessential equipment. Then reset the circuit breaker.

Wiring Specifications

⚠ CAUTION

DAMAGE TO EQUIPMENT OR PERSONNEL

- Adhere to all national and local electrical codes.
- Wiring should be performed by a qualified electrician.
- Strain reliefs are not provided with this unit. Snap-In strain reliefs are recommended.
- The UPS must be wired into a branch circuit, equipped with a circuit breaker rated as specified in the tables below.
- Actual wire size must comply with required amp capacity and national and local electrical codes.
- Recommended input terminal screw torque: 16 lbf-in (2 Nm).

Failure to follow these instructions can result in equipment damage and minor or moderate injury

SRT5K/6KXLT/SRT5K/6KXLT-IEC models	
Input connections	Wire to L1, L2, ⏚
Output connections	Wire to L1, L2, ⏚

System	Wiring	Voltage	Current full load, nominal	External input circuit breaker, (typical)	Wire size, typical
SRT5KXLT SRT5KRMXLT SRT5KXLT-IEC SRT5KRMXLT-IEC	Input Output	208/240 Vac	24 A	30 A/2-pole	Not applicable
SRT6KXLT SRT6KRMXLT SRT6KXLT-IEC SRT6KRMXLT-IEC	Input Output	208/240 Vac	33 A 29 A	50 A/2-pole	6 AWG

SRT5KXLI/SRT6KXLI models	
Input connections	Single phase: Wire to L, N, ⏚
Output connections	Wire to L, N ⏚

System	Wiring	Voltage	Current full load, nominal	External input circuit breaker, (typical)	Wire size, typical
SRT5KXLI SRT5KRMXLI	Input Output	220/230/240 Vac	24 A	40 A/2-pole	10 mm^2
SRT6KXLI SRT6KRMXLI	Input Output	220/230/240 Vac	32 A 28 A	50 A/2-pole	16 mm^2

SRT5KRMXLW-HW	
Input connections	Single phase: Wire to L, L2/N,
Output connections	Wire to L1, L2/N

System	Wiring	Voltage	Current full load, nominal	External input circuit breaker, (typical)	Wire size, typical
SRT5KRMXLW-HW	Input Output	208/220/ 230/240 Vac	26 A 24 A	40 A/2-pole	10 mm^2 (8 AWG)

Hardwire the UPS

⚠ CAUTION

DAMAGE TO EQUIPMENT OR PERSONNEL

- Disconnect the mains input circuit breaker before installing or servicing the UPS or connected equipment.
- Disconnect internal and external batteries before installing or servicing the UPS or connected equipment.
- The UPS contains internal and external batteries that may present a shock hazard even when disconnected from the mains.
- UPS AC hardwired and pluggable outlets may be energized by remote or automatic control at any time.
- Disconnect equipment from the UPS before servicing any equipment.
- Do not use the UPS as a safety disconnect.
- Strain reliefs are not supplied with the unit. Snap-In strain reliefs are recommended.

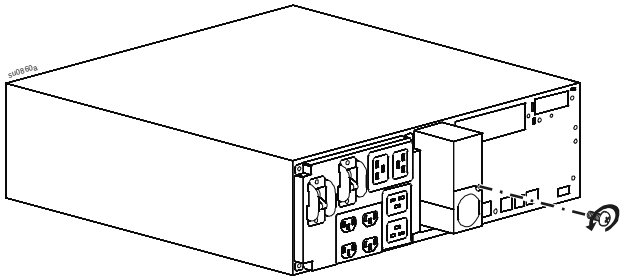
Failure to follow these instructions can result in equipment damage and minor or moderate injury

Input hardwiring

SRT5K/6K models

Remove the 35 mm (1.38 in) knockout panels.

❶



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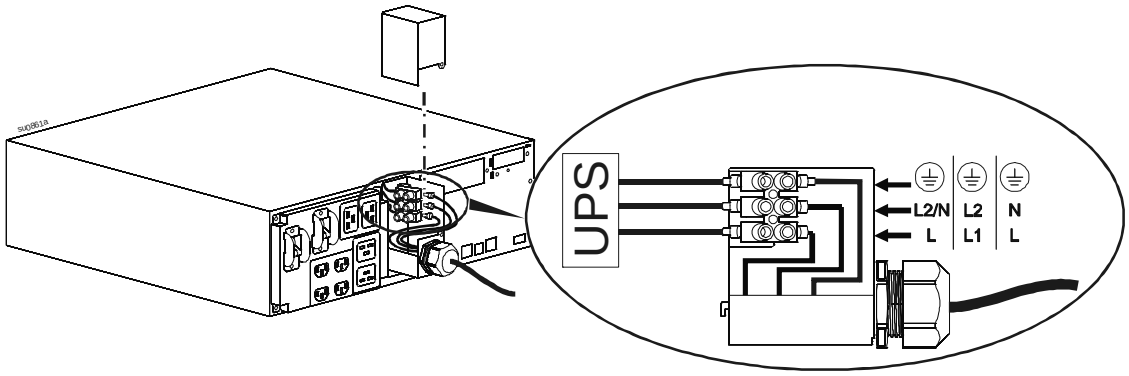

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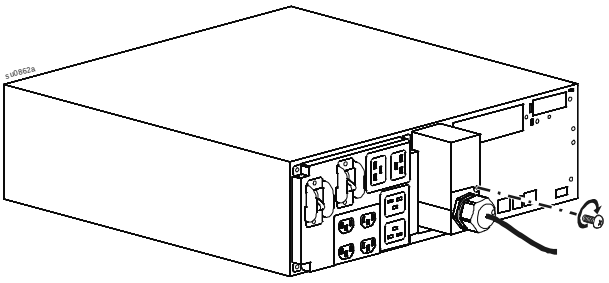
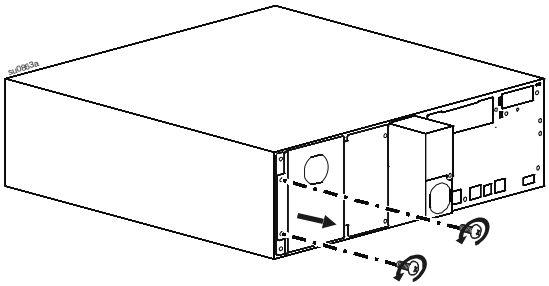


Output hardwiring

SRT5KRMXLW-HW models

❶



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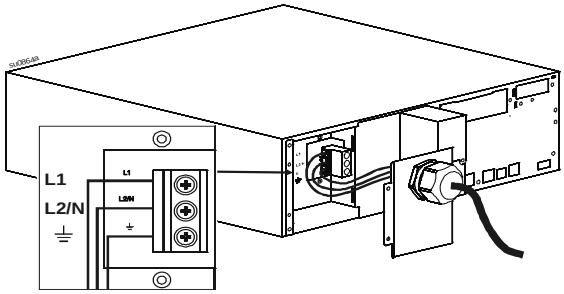

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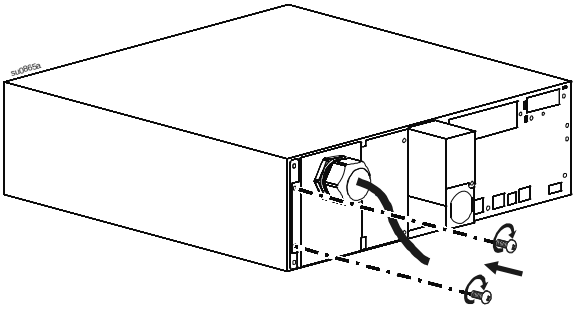
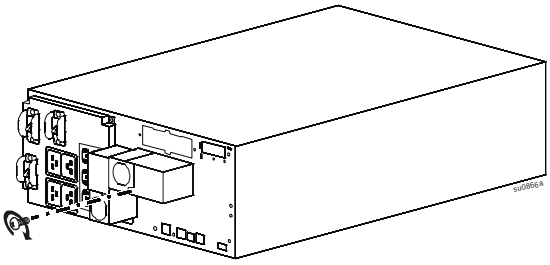


SRT6K models

❶



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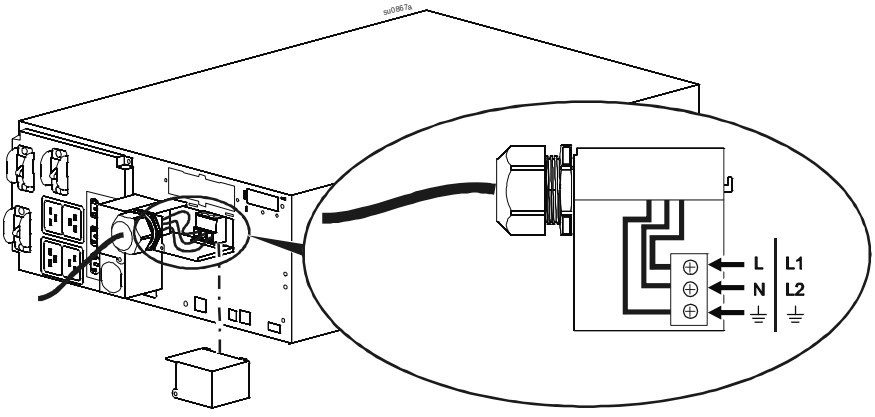
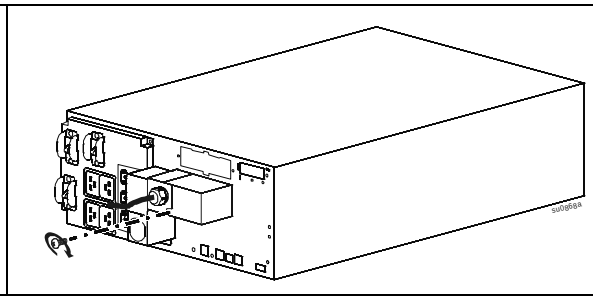


Remove the 38.1 mm (1.5 in) knockout panels.

❸	

UPS Configuration

Connect Emergency Power Off feature

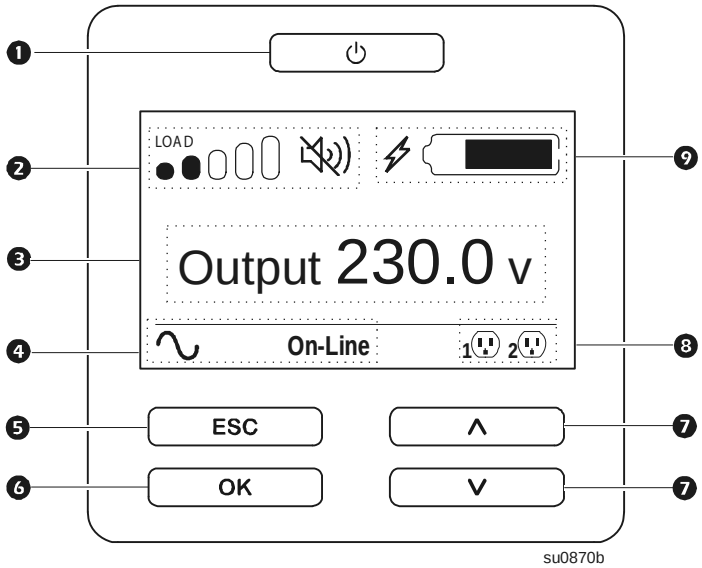
For instructions on how to connect the Emergency Power Off (EPO) switch, refer to the Operation and Maintenance manual on the User Documentation CD (supplied).

Configure controllable outlet groups

The outlets on the UPS are grouped. To configure the controlled outlet features, use the **Advanced** menus on the display interface and navigate to: **Main Menu > Configuration > Outlets > Outlet Group.**

UPS Display Interface

❶	POWER ON/OFF **button** Button illumination indications: -No illumination, the UPS and the output power are off -White illumination, the UPS and the output power are on -Red illumination, the UPS is on and the output power is off
❷	**Load icon** **Disable/mute audible alarm icon**
❸	**UPS status information**
❹	**Operation mode icons**
❺	ESCAPE **button**
❻	OK **button**
❼	UP/DOWN **buttons**
❽	**Controllable outlet group status icons**
❾	**Battery status icons**



The icons on the LCD display interface screen may vary depending on the installed firmware version.	
	Load icon: The approximate load capacity percentage is indicated by the number of load bar sections illuminated. Each bar represents 16% of the load capacity.
	Mute icon: Indicates the audible alarm is disabled/mute.

UPS Status Information

The status information field provides key information on the status of the UPS.
The **Standard** menu will allow the user to select one of the following screens.
The **Advanced** menu will scroll through the following five screens.

Input Voltage

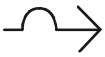
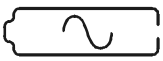
Output Voltage

Output Frequency

Load

Runtime

In the case of a UPS event, status updates will be displayed defining the event or condition that has occurred.
The display screen illuminates yellow to indicate a Warning and red to indicate an Alert depending on the severity of the event or condition.

Operation Mode Icons	
	On-Line mode: The UPS is supplying conditioned mains power to connected equipment.
	**Bypass mode:** The UPS is in **Bypass** mode and the connected equipment will receive mains power as long as the input voltage and frequency are within the configured limits.
	Green mode: When in **Green** mode mains power is sent directly to the load. In the event of a mains power outage, there will be an interruption in power to the load of up to 8 ms while the UPS switches to **On-Line** mode. When enabling **Green** mode consideration should be given to devices that may be sensitive to power fluctuations.
	**Battery mode:** The UPS is supplying battery power to connected equipment.
Controllable Outlet Group Icons	
	Controllable Outlet Group Power Available: The number next to the icon identifies the specific outlet groups that have available power.
	Controllable Outlet Group Power Not Available: The number next to the icon identifies specific outlet groups that do not have available power.
Battery Status Icons	
	Battery Charge Status: Indicates the battery charge status.
	Battery Charge In Progress: Indicates the battery is charging.

Display interface operation

Use the UP/DOWN buttons to scroll through the options. Press the OK button to accept the selected option. Press the ESC button to return to the previous menu.

Menu overview

The display interface has **Standard** and **Advanced** menu screens. The preference for **Standard** or **Advanced** menu selections is made during initial installation and can be changed at any time through the **Configuration** menu.

The **Standard** menus include the most commonly used options.

The **Advanced** menus provide additional options.

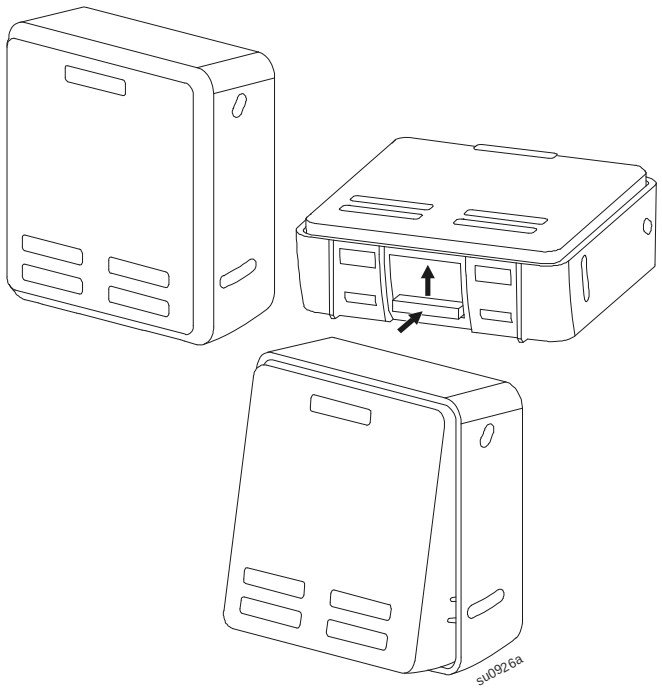
Note: Actual menu screens may differ by model and firmware version.

Refer to the UPS Operation Manual for menu configuration details.

LCD display interface angle adjustment

The angle of the LCD display interface can be adjusted for ease in viewing the displayed messages.

1. Remove the front bezel.
2. Locate the button on the bottom of the display interface panel.
3. Press the button and slide the bottom of the LCD display interface screen out. An audible click will be heard
4. when the screen reaches the maximum angle.



Select models are ENERGY STAR® qualified.
For more information go to www.apc.com/site/recycle/index.cfm/energy-efficiency/energy-star/

Customer support and warranty information are available on the APC web site, **www.apc.com**.

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12/2014